

REMARKS

Claims 1-20 are pending. Claims 1, 11 and 14 have been amended. No new matter has been added as a result of the amendments.

The Applicant wishes to express his appreciation to Examiner Y. Young Lee for the telephonic examiner interview conducted on November 4, 2003. The comments of the Examiner were very helpful in the preparation of the instant response.

102 Rejection

Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Tulluri et al. (U.S. Patent No. 6,026,183). The Applicant has reviewed the cited reference and respectfully submit that the present invention as is set forth in Claims 1-20 is not anticipated or rendered obvious by Tulluri et al. (U.S. Patent No. 6,026,183).

The Examiner is respectfully directed to independent Claim 1, which recites that embodiments of the present invention are directed to a method for applying multi resolution boundary encoding to region based still image and video encoding including:

... decomposing each of the plurality of the regions in the original image into one or more subbands using a plurality of the boundaries with the highest resolution coefficients selected from among the plurality of boundaries that are detected transmitting boundary information associated with regions of the original image and image information with the lowest resolution coefficients; and successively transmitting boundary information associated with regions of the original image and image information with higher resolution coefficients.

Claims 11 and 14 recite limitations similar to those recited in Claim 1. Claims 2-10 depend from Claim 1, Claims 12-13 depend from Claim 11, and Claims 15-19 depend from Claim 14 and recite further limitations of the claimed invention.

Tulluri et al. does not anticipate or render obvious a method for applying multi resolution boundary encoding to region based still image and video encoding that includes, “transmitting boundary information associated with regions of the original image and image information with the lowest resolution coefficients; and successively transmitting boundary information associated with regions of the original image and image information with higher resolution coefficients.” Tulluri et al. only discloses a content based video compression methodology. It should be appreciated that Applicant’s Claim 1 (and similar limitations in Claims 11 and 14) sets forth a process whose recited attributes reflect an intricacy that is not inherently described by or automatically suggested from the disclosure of Tallurri et al. For instance, the process defined in Claim 1 sets forth a manner of transmitting boundary and image information that is not shown or suggested by Tallurri et al. Claim 1 sets forth boundary resolution coefficient features and temporal relationships not addressed by Tallurri et al. Claim 1 (and similar limitations in Claims 11 and 14) requires that boundary and image information with the lowest (not lower but lowest) resolution coefficients be transmitted before boundary and image information with higher resolution coefficients are transmitted. Therefore, a transmission of boundary and image information with the lowest resolution coefficients must come prior to the transmission of boundary and image information with higher resolution coefficients in order to meet this limitation of Claim 1 (and similar limitations

of Claims 11 and 14). Nowhere in the Tellurri et al reference is such a limitation taught or suggested.

Moreover, Applicant's Claim 1 (and similar limitations in Claims 11 and 14) sets forth a manner of decomposing regions of an original image whose recited attributes reflect an intricacy that is not inherently described by or automatically suggested from the disclosure of Tallurri et al. as is suggested by the Examiner. Claim 1 (and similar limitations in Claims 11 and 14) recites that each of the plurality of regions in the original image be decomposed into subbands by "using the plurality of the boundaries with highest resolution coefficients...." and by successively decomposing each of the regions in a subband with lower resolution coefficients into one or more further subbands using the "plurality of the boundaries with lower resolution coefficients." Consequently, Claim 1 (and similar limitations in Claims 11 and 14) components are defined by boundary resolution coefficient features and temporal relationships not addressed by Tallurri et al. Namely, that first a plurality boundaries with the highest (not higher but highest) resolution coefficients be used to decompose the original image into subbands, and after that the plurality of boundaries with the lower resolution coefficients be used to decompose the subbands into further subbands. Therefore, a decomposition using the highest resolution coefficients must come first to meet the Claim limitations. Nowhere in the Tellurri et al reference is such a limitation taught or suggested.

As such, the Applicant respectfully submits that the Tulluri et al. reference simply does not teach or suggest what the Examiner relies upon it as teaching. Consequently, the embodiments of the Applicant's invention set forth in Claims 1, 11 and 14 are neither anticipated or rendered obvious by Tellurri et al.

It should be appreciated that, "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1989). As noted above, the claim limitation "transmitting boundary information associated with regions of the original image and image information with the lowest resolution coefficients; and successively transmitting boundary information associated with regions of the original image and image information with higher resolution coefficients" is nowhere found described, either expressly or inherently, in the Tulluri et al. reference. In addition, the claim limitation "means for decomposing each of the plurality of the regions in the original image into one or more subbands using the plurality of the boundaries with the highest resolution coefficients selected from among the plurality of boundaries that are detected" is nowhere found described, either expressly or inherently, in the Tulluri et al. reference.

Therefore, the Applicant respectfully submits that Tulluri et al. does not anticipate or render obvious the present claimed invention as is recited in Claims 1, 11 and 14, and as such, Claims 1, 11 and 14 are in condition for allowance. Accordingly, the Applicant also

respectfully submits that Tulluri et al. does not anticipate or render obvious the present claimed invention as is recited in Claims 2-10 dependent on Claim 1, Claims 12-13, dependent on Claim 11, and Claims 15-20 traverse the Examiners basis for rejection under 35 U.S.C. 102(b) as being dependent on an allowable base claim.

Conclusion

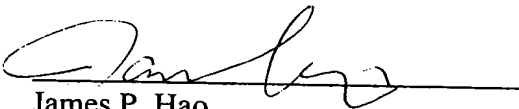
In light of the above-listed amendments and remarks, Applicant respectfully requests allowance of the remaining Claims.

The Examiner is urged to contact Applicant's undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

WAGNER, MURABITO & HAO LLP

Dated: 12/18, 2003



James P. Hao
Registration No. 36,398
Two North Market Street
Third Floor
San Jose, CA 95113
(408) 938-9060